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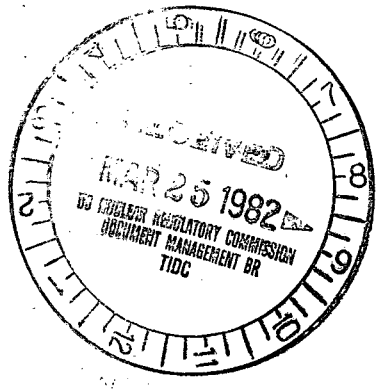

Docket No. 50-261

Mr. J. A. Jones
Senior Executive Vice President
Carolina Power and Light Company
336 Fayetteville Street
Raleigh, North Carolina 27602

Dear Mr. Jones:

Our letter of January 21, 1982 requested additional information regarding your analysis of a main steam line break with continued feedwater addition (IE Bulletin 80-04). The enclosure to this letter supercedes the enclosure to our January 21, 1982 letter by deleting, clarifying, and adding some items.

Your letter of February 25, 1982 requested a 30 day extension to respond to our January 21, 1982 letter due to significant off-site and plant resources required for your current refueling outage. Therefore, please provide your response to this letter within your requested 30 day extension time frame.

Sincerely,

(S)

Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Enclosure:
Request for Additional
Information

cc: See next page

OFFICE	ORB 1	ORB 1					
SURNAME	GRequa/rs	SVarga					
DATE	3/15/82	3/16/82					

Mr. J. A. Jones
Carolina Power and Light Company

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U. S. Nuclear Regulatory Commission
Resident Inspector's Office
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Hartsville, South Carolina 29550

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James P. O'Reilly
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U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

BACKGROUND

Evaluation of the information contained in the May 9, 1980 letter [1] from Carolina Power and Light Company (CP&L) to the U.S. Nuclear Regulatory Commission (NRC) relating to IE Bulletin 80-04, "Analysis of a PWR Main Steam Line Break with Continued Feedwater Addition," revealed several items of concern. Additional information relating to these concerns is needed before a final evaluation can be made regarding the potential for exceeding containment design pressure or worsening of reactor return-to-power response.

The concerns and the additional information needed to resolve the concerns are identified in this Request for Additional Information.

ITEM 1

CONCERN

IE Bulletin 80-04 directs the Licensee to review containment pressure response to a main steam line break (MSLB) accident to determine the impact of runout flow from the auxiliary feedwater (AFW) system and other energy sources. CP&L's response concerning the MSLB analysis for the H. B. Robinson Steam Electric Plant Unit 2 indicated that continued feedwater addition was at the design AFW pump flow rates, main feedwater (MFW) flow was assumed to be isolated 10 seconds after the start of the accident, and manual isolation of the AFW system was assumed to occur by operator action 10 minutes after the initiation of the accident.

CP&L's response is not sufficient to allow FRC to complete the evaluation of the potential for exceeding containment design pressure. The AFW flow assumed for the analysis is the design flow rate at design head; it does not assume a significantly lower head, which would occur during a MSLB. It is not apparent that the analysis considered the effects of a single active failure of the MFW system. The analysis also takes credit for operator action to identify the affected steam generator and isolate AFW flow to that generator within 10 minutes of the start of the accident. In the light of studies performed on operator response to stressful situations, this time may be unrealistic.

ITEM 1

REQUEST

Please provide the following information concerning your analysis of containment pressure response to a MSLB with continued feedwater addition:

1. A determination of runout AFW flow to the affected steam generator. This should be determined from the manufacturer's pump curves at zero backpressure, unless the system contains reliable anti-runout provisions or an actual backpressure value has been conservatively calculated.

2. An evaluation of the potential for a single active failure in the MFW system which could cause the greatest feedwater flow to the affected steam generator during a MSLB accident and a determination of MFW flow rate to the affected generator if a single active failure were to occur.

3. If your response to requests 1 and 2 above, change your response to IE Bulletin 80-04, dated May 9, 1980, provide an evaluation of the potential for exceeding containment design pressure using the feedwater runout flow rates identified in Item 1, Requests 1 and 2, above.

4. Provide the time after the start of a MSLB that containment design pressure will be exceeded if no operator action is taken to terminate the accident. Provide, also, the magnitude of the peak pressure and the time at which the peak occurs.

5. Provide the tasks for the operator to identify the affected steam generator and isolate the AFW flow to that generator and justification that this can be done in 10 minutes.

ITEM 2

CONCERN

IE Bulletin 80-04 directs the Licensee to review the reactivity increase which results from a MSLB inside or outside containment.

The Licensee stated that the worst case MSLB was assumed to occur at hot, zero power condition, outside containment, with offsite power available. The most reactive control rod was assumed to be stuck out.

The assumptions did not state whether a single active failure to the safety injection system which could delay the injection of boron to the reactor coolant system (RCS) was considered or if the time in core life was chosen to maximize the negative moderator temperature coefficient.

REQUEST

Please provide the following information concerning your analysis of reactivity response which results from a MSLB with continued feedwater addition:

1. Provide the longest time for the delay to inject boron taking into account a single active failure.

   Verify that time in core life which produces the most limiting moderator temperature coefficient for the MSLB accident was used in your analysis.

   Note: A statement that the assumptions of SRP 15.1.5 are not considered part of the licensing basis will not be considered responsive to this request.

2. If your response to request 1 and 2 of Item 1 and request 1 of Item 2 changes your response to IE Bulletin 80-04 dated May 8, 1980, provide an analysis of the core reactivity response to a MSLB considering the Item 1, Requests 1 and 2 and Item 2, Request 1. Provide justification for your assumptions.